



# Australian Bureau of Statistics

## 2965.0 - Census Working Paper 93/6 - Aboriginal/Torres Strait Islander Counts, 1991

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## Summary

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#### **1991 CENSUS DATA QUALITY: ABORIGINAL AND TORRES STRAIT ISLANDER COUNTS**

Julie Evans  
Dietmar Kahles  
Catriona Bate

Population Census Evaluation  
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## **INTRODUCTION**

Accurate data about the Aboriginal and Torres Strait Islander population are of great importance to policy-makers across Australia. The development of appropriate policies for Aboriginal and Torres Strait Islander people by Commonwealth and State authorities in such areas as housing, health services, education and social security is among other factors dependent on good quality data from the Census of Population and Housing. An important user of Census data is the Commonwealth Grants Commission which requires the data for the allocation of funds to the States and Territories. Although a number of authorities collect information about the indigenous population of Australia, the Census remains the only comprehensive source of socio-economic data on Aboriginal and Torres Strait Islander people, especially for small areas.

This paper aims to provide an detailed assessment of the accuracy of 1991 Census counts of Aboriginal and Torres Strait Islander people. This was achieved by examining intercensal changes, undercount, non-response and accuracy of stated responses to the Census question on Aboriginal and Torres Strait Islander origin. In addition, geographic and demographic analyses, as well as a comparison of Census data with other sources, were undertaken.

Another examination of the Census counts is included in the Demography Working Paper 93/2, 'Estimates of the Aboriginal Population: Review of Data Sources' (ABS, 1993d), although in the context of the use of the counts in the production of population estimates.

## **Background**

In 1967, Section 127 of the Commonwealth Constitution (hereafter referred to as Section 127) which stated 'In reckoning the numbers of the people of the Commonwealth, or a State or other part of the Commonwealth, Aboriginal natives shall not be counted.' was repealed, following the highest 'Yes' vote (90.8%) of any referendum attempting to amend the Constitution to date. This event prompted fundamental changes to the enumeration of indigenous people in Australia which were first implemented in the 1971 Census. Outlined below is a brief history of Census data collection in regard to indigenous people in Australia.

A Census question relating to each person's race has been included in every Australian Census since Federation. From the 1911 to the 1966 Censuses the population had been classified under three broad categories: European, Full-Blood Non-European and Half-Caste Non-European. Due to the constitutional requirements mentioned above, Aboriginal people were not included in the final Census counts (except those of mixed racial origin

which were included in the 'Half-Caste Non-European' category). However, collectors were still instructed to enumerate 'settled' Aboriginal people on normal household forms as completely as possible, with estimates being produced for those deemed to be 'nomadic'. Coverage of Aboriginal people improved progressively over the Censuses, and in the 1966 Census extensive arrangements were made to obtain as full a coverage of full-blooded Aboriginal people as possible.

The enumeration of Torres Strait Islander people to this point differed from that of the Aboriginal population as follows:

- Prior to the 1947 Census, persons identified as being of Torres Strait Islander origin were regarded as Aboriginal for Census purposes and therefore not included in Census counts.
- In the 1947 Census, Torres Strait Islander people were classified as Polynesian and included in Census counts.
- In the 1954 and 1961 Censuses, Torres Strait Islander people were classified as Pacific Islanders and included in the Census counts.
- In the 1966 Census, Torres Strait Islander people were again regarded as Aboriginal for Census purposes and therefore excluded from Census counts.

Following the repeal of Section 127, the 1971 Census question was designed to ascertain the race with which persons identified themselves. The 1971 Census was also the first Census in which Aboriginal and Torres Strait Islander people were to be included in all official Census counts. Since 1971, there have been many initiatives taken to improve the quality of the count of Aboriginal and Torres Strait Islander people. Changes in Census procedures since 1971 are outlined below.

## **Census Procedures 1971-1991**

### **Question Design**

Since the 1971 Census (the first after the repeal of Section 127) there have been a number of changes to the question concerning Aboriginal or Torres Strait Islander origin. The different question formats from the 1971 to 1991 Censuses are shown in the Appendix.

The 1971 and 1976 Censuses asked a question on each person's racial origin. The use of the term 'racial origin' generated considerable controversy in the 1976 Census. In addition, results from tests using the 'racial origin' question in the run-up to the 1981 Census showed that non-response among non-indigenous people was very high. Reasons given for not answering the question were that persons did not think that it applied to them, because they were not of Aboriginal or Torres Strait Islander origin, or they were confused by the question.

A new question on Aboriginal/Torres Strait Islander origin was developed for the 1981 Census, and its wording has since remained unchanged. The question was positioned at the bottom of a page in the 1981 Census. To improve the response rate (it is known that positioning a question at the top of a page reduces non-response), but not to influence the category answered, the question has been at or near the top of a page in the 1986 and 1991 Censuses.

In 1978, the Commonwealth Government adopted the following definition of Aboriginal and Torres Strait Islander origin:

An Aboriginal or Torres Strait Islander is

- a person of Aboriginal or Torres Strait Islander descent
- who identifies as an Aboriginal or Torres Strait Islander and
- is accepted as such by the community in which he or she lives.

This definition has not been explicitly incorporated into the Census form, however, and respondents have had to interpret the question themselves. Thus, some people may respond to the question in terms of their belief of their genetic makeup, while others may respond in terms of identification with a group. For the 1991 Census, some assistance was available in the 'General Inquiry Guide' and through the Census Hotline which provided the following explanations:

- For census purposes, 'Aboriginal' does not refer to everyone born in Australia or to the Aborigines of any other country.
- Mark 'Yes, Aboriginal' if you are of Australian Aboriginal descent or mixed descent and identify yourself as Aboriginal.
- 'Torres Strait Islander' means people who originally come from the Torres Strait Islands located between the Australian mainland and Papua New Guinea.

Mark 'Yes, Torres Strait Islander' if you are of Torres Strait Islander descent or mixed descent and identify yourself as a Torres Strait Islander.

### **Remote Area Interview Forms**

In the 1976 Census, special simplified Census forms, designed to be completed by interview, were used in selected communities in the Northern Territory where communication and literacy problems had been identified. These were the predecessors of the Remote Area Interview Forms (RAIFs) which have been used since 1981 in Western Australia, South Australia and the Northern Territory. In 1991, the use of RAIF procedures was extended into Queensland.

1991 Census RAIF procedures involved three stages. Firstly, a Community List, containing all households in the community, was completed for each collection area. Next, a Remote Area Household Form, consisting of a single page with space provided on the front page for a list of all people living in the household and slightly modified dwelling questions on the back page, was completed for each household. Finally, for each person who would not be counted elsewhere, a RAIF was completed. In 1991, RAIFs were similar to normal personal forms, although some questions were slightly reworded, the number of response categories reduced for some questions and the Aboriginal or Torres Strait Islander origin question was premarked 'Yes, Aboriginal'. These changes were designed to make the form easy to complete by interview and relevant to people living in remote areas.

### **Data Collection**

Before the 1986 Census the field operation was controlled and conducted jointly by ABS and the Australian Electoral Commission (AEC) with ABS being responsible for the development of recruitment policies, training material and field methods.

For the 1971 Census, Collection Districts (CDs) were created in remote areas for the first time for which special collectors were recruited. Details of the indigenous population were

compiled one month prior to Census night and then adjusted for arrivals and departures. This approach proved to be difficult in areas with large, fluctuating populations.

In the 1976 Census all aspects of the enumeration of indigenous people were controlled by ABS Central Office. The recruitment of indigenous collectors was emphasised, and various relevant Government departments were consulted on field procedures.

The 1981 Census introduced two important changes. Firstly, the use of RAIWs in three States (see above), and secondly, control of the enumeration of Aboriginal and Torres Strait Islander people was devolved to ABS State Offices. This led to the appointment of special Census Field Officers (CFOs) in South Australia, Western Australia and the Northern Territory, who organised the collection of data from indigenous people in their area of responsibility. For the 1981 Census, ABS put a lot of effort into the development of an effective publicity campaign targeting Aboriginal and Torres Strait Islander people.

In the 1986 Census CFOs were again the central feature of the collection strategy. CFOs were appointed in all States and the Northern Territory, and for the first time indigenous people were appointed as CFOs. Extensive consultation with relevant organisations and Government agencies took place, and an even stronger emphasis was placed on public relations. A special publicity campaign was targeted at urban indigenous communities.

Since 1986, very few changes have been made to the successful strategy for Census data collection for Aboriginal and Torres Strait Islander people. The emphasis in the 1991 Census was again on involving as many indigenous people in the collection process as possible, increased liaison with Aboriginal and Torres Strait Islander organisations and relevant Government departments, and the use of special procedures to enumerate indigenous people living in remote areas.

## **Data Processing**

For the Censuses from 1971 to 1981, data were transcribed from Census forms to machine-readable forms. In the 1986 Census, direct key-entry of data from Census forms replaced the manual transcription. In 1991, Census forms were designed to allow Optical Mark Recognition (OMR) of the forms. The change in technology should have improved data quality as transcription was generally not required and so clerical error was reduced.

The 1971 and 1976 Censuses used a general question on racial origin rather than Aboriginal or Torres Strait Islander origin. In 1971, data transcription procedures were such that all persons were to be assigned a racial origin whether a response was given or not, so that the published statistics would contain no not stated cases. Processors were instructed to use other data on the Census form such as name, birthplace etc. for imputation of not stated cases. In 1976, all not stated cases were assigned to a not stated category. The racial origin question was subject to sampling in the 1976 Census, as only 50 per cent of Census forms were processed for this question.

In 1976, a large number of people born overseas were identified on Census forms as being of Aboriginal or Torres Strait Islander origin. An edit procedure was introduced in 1981 to ensure that all persons whose parents were born overseas were automatically assigned a response of 'No', even in cases where originally a response of 'Yes, Aboriginal' or 'Yes, Torres Strait Islander' had been given. As well, a response of 'No' was derived in cases where no response was given to the Aboriginal/Torres Strait Islander origin question if the person's parents were born overseas.

The 1986 Census included a question on Ancestry which was used, where possible, to derive missing responses. Edits were applied which identified people who were either born

overseas or who had both parents born overseas. Responses that failed an edit tended to be resolved after an examination of other relevant questions such as birthplace, language and ancestry.

The 1991 Census did not include a question on ancestry. If no response was given to the Aboriginal or Torres Strait Islander question, then a response of 'No' may have been derived depending on responses to birthplace and birthplace of parents. No responses of 'Yes, Aboriginal' or 'Yes, Torres Strait Islander' were derived. As in previous Censuses, a number of edits were applied to the responses to the question on Aboriginal or Torres Strait Islander origin. If a birthplace of the person overseas was given then a response of 'Yes, Aboriginal' or 'Yes, Torres Strait Islander' was amended to 'No'. If both parents were born overseas, then a response of 'Yes, Aboriginal' or 'Yes, Torres Strait Islander' was also amended to 'No'.

The effect of these edits and the derivation will be examined further in Sections 3 and 4.

### 1991 Census Counts

The 1991 Census counted 265,459 Aboriginal and Torres Strait Islander people in Australia who represented about 1.6 per cent of the total Australian population. Of these, 238,380 (or about 90%) were enumerated as Aboriginal people and 26,884 (about 10%) as Torres Strait Islander people. Table 1 shows 1991 Census counts for both the Aboriginal and Torres Strait Islander populations by State and Territory.

**Table 1: Aboriginal and Torres Strait Islander counts by State and Territory, 1991 Census**

State/Territory	Aboriginal people		Torres Strait Islander people		Total indigenous people	
	Number of persons	Per cent of total	Number of persons	Per cent of total	Number of persons	Per cent of total
New South Wales	65,133	27.3	4,886	18.2	70,019	26.4
Victoria	13,739	5.8	2,996	11.1	16,735	6.3
Queensland	55,475	23.3	14,649	54.5	70,124	26.4
South Australia	14,639	6.1	1,593	5.9	16,232	6.1
Western Australia	41,002	17.2	777	2.9	41,779	15.7
Tasmania	7,620	3.2	1,265	4.7	8,885	3.4
Northern Territory	39,287	16.5	623	2.3	39,910	15.0
Australian Capital Territory	1,680	0.7	95	0.4	1,775	0.7
<b>Australia</b>	<b>238,575</b>	<b>100.0</b>	<b>26,884</b>	<b>100.0</b>	<b>265,459</b>	<b>100.0</b>

New South Wales and Queensland accounted for about half of the Aboriginal population in Australia, and Western Australia and the Northern Territory for a further third. Queensland had by far the largest share (54.5%) of the Torres Strait Islander count, and New South Wales and Victoria accounted for about another 30 per cent.

As shown in Table 2, the count of Aboriginal people increased considerably between the 1986 and 1991 Censuses (15.8% for Australia or about twice the increase for the total population). New South Wales and Queensland (about 50%), and Western Australia and the

Northern Territory (about 30%) contributed most to the overall increase in the count of Aboriginal people.

**Table 2: Aboriginal counts and intercensal changes by State and Territory, 1986 and 1991 Censuses**

State/Territory	1986 Census	1991 Census	Intercensal change		Contribution to total change
	No.	No.	Aboriginal people	All persons	
	No.	No.	No.	%	%
New South Wales	55,672	65,133	9,461	17.0	6.1
Victoria	10,740	13,739	2,999	27.9	5.6
Queensland	48,098	55,475	7,377	15.3	15.9
South Australia	13,298	14,639	1,341	10.1	4.1
Australia					
Western Australia	37,110	41,002	3,892	10.5	12.8
Tasmania	5,829	7,620	1,791	30.7	3.8
Northern Territory	34,197	39,287	5,090	14.9	13.6
Australian Capital Territory	1,160	1,680	520	44.8	12.3
<b>Australia</b>	<b>206,104</b>	<b>238,575</b>	<b>32,471</b>	<b>15.8</b>	<b>8.0</b>
					<b>100.0</b>

Intercensal increases in the count of Aboriginal people were larger than those for the total population in all States except Queensland and Western Australia. Possible explanations for these large increases will be discussed in later sections. The relatively small intercensal increases for Queensland and Western Australia could be of concern for data quality. They may be an indication of underenumeration of Aboriginal people in these States. The possibility of undercount for Western Australia is also mentioned in Gaminiratne, 1993.

Table 3 shows a large increase in the count of Torres Strait Islander people between 1986 and 1991 (24.8% for Australia). The rate of increase was about 50 per cent higher than the increase for the Aboriginal population, and about three times as high as that for the total Australian population. It thus appears very unlikely that the data accurately reflect intercensal population growth.

Similar to the situation for the Aboriginal population, all States except Queensland show larger intercensal increases in the count of Torres Strait Islander people than for the total population. The very large intercensal increases shown for New South Wales, Victoria, South Australia and Tasmania may indicate data quality problems (which will be discussed in later sections). The data for Queensland may indicate a slight undercount of Torres Strait Islander people in this State, although the figures may also be affected by other factors.

**Table 3: Torres Strait Islander counts and intercensal changes by State and Territory, 1986 and 1991 Censuses**

State/Territory	1986 Census	1991 Census	Intercensal change		Contribution to total change
	No.	No.	TSI people	All persons	
	No.	No.	No.	%	%

New South Wales	3,339	4,886	1,547	46.3	6.1	29.0
Victoria	1,871	2,996	1,125	60.1	5.6	21.1
Queensland	13,170	14,649	1,479	11.2	15.9	27.7
South Australia	993	1,593	600	60.4	4.1	11.2
Western Australia	679	777	98	14.4	12.8	1.8
Tasmania	887	1,265	378	42.6	3.8	7.1
Northern Territory	542	623	81	14.9	13.6	1.5
Australian Capital Territory	60	95	35	58.3	12.3	0.6
<b>Australia</b>	<b>21,541</b>	<b>26,884</b>	<b>5,343</b>	<b>24.8</b>	<b>8.0</b>	<b>100.0</b>

An important point to note is that while the Aboriginal and Torres Strait Islander population count rose by 42 per cent between 1981 and 1986, the size of the increase was similar for both populations (42% and 41% respectively). The situation was different between 1986 and 1991 where the count of Aboriginal people increased by about 16 per cent while the count of Torres Strait Islander people increased by about 25 per cent for Australia.

## UNDERCOUNT

Although attempts are made to include everyone present in Australia on Census night in the Census, inevitably some people will be missed. Strategies to improve the enumeration of Aboriginal and Torres Strait Islander people have been developed and outlined in Section 1.

### Undercount in Remote Area Interview Form Areas

As mentioned in Section 1.2.2, RAIFs, designed to be completed by interview rather than self-enumeration to alleviate literacy or language problems, have been used by specially recruited Aboriginal or Torres Strait Islander interviewers in designated areas since 1981. In the 1991 Census RAIFs were used in Queensland, Western Australia, South Australia and the Northern Territory. Around 22 per cent of the Aboriginal and Torres Strait Islander people counted in the 1991 Census were enumerated using RAIF procedures.

No independent assessment of undercount is undertaken in remote areas and the only information available on the coverage of people in these areas is qualitative. Given the varied factors affecting the counts, it appears most likely that there was a minor overcount. Further details are contained in ABS, 1993b.

### Estimates of Undercount from the Post-Enumeration Survey

For most of the population (ie. excluding people in remote areas), information on undercount is obtained from the Post Enumeration Survey (PES) which was conducted three weeks after Census night and aims to determine how many people were missed or double-counted



by the Census. The PES estimates for the rest of Australia do not give an indication of the effectiveness of the RAIF procedures.

The PES sample is large enough to produce estimates of undercount for the Australian population with relatively small standard errors, however the PES is not designed to measure specifically undercount in the Aboriginal/Torres Strait Islander population and only just over 1,000 Aboriginal and Torres Strait Islander people were included in the sample, resulting in high standard errors for the estimates. Thus, the estimates of undercount of Aboriginal and Torres Strait Islander people included here have not been broken down by demographic or geographic factors. Also, it should be noted that the estimates of undercount from the PES may not exactly represent the situation for the Census as it appears that responses to the question on Aboriginal or Torres Strait Islander origin may differ in the different collection situations: about 15.6 per cent of those identified as Aboriginal or Torres Strait Islander in the PES were coded as being of neither Aboriginal or Torres Strait Islander in the Census (see Section 4 for more details).

Despite these problems, the PES can be used to give some indication of the net undercount of Aboriginal and Torres Strait Islander people living outside RAIF areas. In 1991, the estimated net undercount of the Aboriginal and Torres Strait Islander population was 3.6 per cent, compared with 1.7 per cent for the non-indigenous population. The estimated net undercount for the Aboriginal and Torres Strait Islander population in 1986 was 6.0 per cent, compared with 1.9 per cent for the whole Australian population. Although the methodology used to calculate these estimates has changed slightly between Censuses, this indicates that there could have been an improvement in coverage of the Aboriginal and Torres Strait Islander population in 1991. Table 4 contains estimates of net undercount for 1986 and 1991 with standard errors where available.

**Table 4: Net Undercount Rates for the Aboriginal and Torres Strait Islander Population**

	Aboriginal/ TSI people Rate %	Standard Error	Non-indigenous people Rate %	Standard Error
1986	6.0	*	1.9	*
1991	3.6	7.2	1.7	0.1

\* Estimates of standard errors for the 1986 estimates are not available on the same basis as the standard errors for the 1991 estimates.

## **NON-RESPONSE**

### **Non-response rates**

Census counts of Aboriginal and Torres Strait Islander people are affected not only by the effectiveness of enumeration but also by the incidence of non-response to the question on Aboriginal/Torres Strait Islander origin. Table 5 presents recorded non-response data for the question in each of the last three Censuses. However, comparisons between the three sets of data are confounded by the (largely unquantifiable) differences between processing procedures adopted in each of the Censuses.

**Table 5: Recorded non-response to Aboriginal and Torres Strait Islander origin question, 1981 to 1991 Censuses (after derivation)**

1981	1986	1991
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State/Territory	Census %	Census %	Census %
New South Wales	3.9	1.8	3.3
Victoria	3.6	2.1	3.3
Queensland	4.4	1.5	3.3
South Australia	3.1	1.2	2.7
Western Australia	3.2	1.4	2.5
Tasmania	5.0	1.5	3.3
Northern Territory	6.5	3.6	3.8
Australian Capital Territory	2.4	1.1	2.5
<b>Australia</b>	<b>3.8</b>	<b>1.7</b>	<b>3.2</b>

The factor with the greatest potential for influencing recorded non-response rate was the use of responses to the ancestry question in 1986 to derive responses for the Aboriginal/Torres Strait Islander origin question. The effect of this procedure was to reduce the recorded non-response rates for the Aboriginal/Torres Strait Islander origin question in 1986, largely invalidating comparisons between the 1986 Census figures in the table and those for the other two Censuses.

The more moderate variation between 1981 and 1991 Census could be attributable to a genuine improvement in response over that period whether due to an increasing acceptance of the question or to its better placement at the top of the page (where it was located in 1986 and 1991) as opposed to near the bottom of the page in 1981.

The tendency for the Northern Territory to record a higher non-response rate than other States/Territories is evident for all three Censuses and is common to most questions on the Census form. A principal factor is the high rate of 'dummy forms' in the Northern Territory which will be examined in more detail later in this section.

### **Derived responses**

In 1991, some responses of 'No' were derived where there was no response, depending upon the responses to birthplace and birthplace of parents. About 30 per cent of the original not stated codes (225,993 person records) were altered to 'No' by this process, which reduced the not stated rate by around 1.3 per cent (based on data obtained from the Census file created before output reformat).

Table 6 below shows the combinations of responses which led to the derivation of a response of 'No' to the Aboriginal/Torres Strait Islander origin question.

**Table 6: Number of origin responses derived where none given using the Birthplace questions; 1991 Census**

Birthplace		Count	Percent
Birthplace	of parents		
Not stated	Both Overseas	3,506	1.6
Australia	Both Overseas	31,964	14.1
Overseas	Both Overseas	172,694	76.4
Overseas	Both Not stated	8,659	3.8
Overseas	Differ	7,393	3.3
Total	2	225,993	100.0

About three-quarters of the records involved in this derivation represent people born overseas whose parents were also born overseas. Given the low probability of many such records representing Aboriginal or Torres Strait Islander persons, the derivation seems well justified.

A question on Ancestry was included in the Census in 1986, but not in 1981 or 1991. This question was used to derive responses where none were given as indicated in Table 7.

**Table 7: Origin responses derived where none given using the Ancestry question; 1986 Census**

Ancestry response	Response derived for
	Abl/TSI origin
Overseas	No
Aboriginal	Yes, Aboriginal
Torres Strait Islander	Yes, Torres Strait Islander
Australian	Not Stated

The use of Ancestry responses to derive missing responses to Aboriginal/Torres Strait Islander origin is likely to have had a major impact on the number of missing responses able to be derived, even though no estimates of the impact of the derivation in 1986 are available. Because the concept of ancestry can be applied to third or fourth generation ancestors, a greater proportion of non-respondents to the Aboriginal/Torres Strait Islander origin question might be expected to state an overseas ancestry than would have been born or have parents born overseas. The effect of this would be a more marked reduction in the level of non-response due to processing in the 1986 Census than the 1991 Census. This would go some of the way towards explaining the apparent increase in the level of recorded non-response from 1.7 per cent in 1986 to 3.2 per cent in 1991.

As there was no derivation of non-response to 'Yes, Aboriginal' or 'Yes, Torres Strait

Islander' in the 1991 Census, as there was in 1986, some people who would have been coded as Aboriginal or Torres Strait Islander in the 1986 Census may not have been in the 1991 Census.

## Dummy records

Dummy forms are created for dwellings from which Census collectors could not obtain a Census form. Person records are imputed for these forms but responses to questions other than age, sex and marital status are left blank and therefore these forms contribute to question non-response. Dummy records appear to have made a greater contribution to non-response in 1991 than in 1986. While counts of persons imputed on dummy forms are available for the 1991 Census, comparable figures are not available for the 1986 Census. Estimates of the total number of persons imputed in 1986 rely on the assumption that the person per dummy form ratio is the same in 1986 as it was in 1991. The total number of persons imputed on dummy forms in 1986 is estimated to be 99,348 (0.6% of the total count of persons), compared with the 1991 count of 247,207 persons imputed on dummy forms (1.5%).

In the 1991 Census, almost half (46%) of the not stated codes for the Aboriginal/Torres Strait Islander origin question are from dummy records. If these records were to be excluded, the non-response rate for Aboriginal/Torres Strait Islander origin for Australia would be only 1.7 per cent. The impact of dummy records on the non-response rate for this question was highest in the Northern Territory (64.3% of not stated codes resulted from dummy records), and lowest in Tasmania (21.6%). Excluding dummy records, non-response is highest in Tasmania (2.6%) and lowest in the Australian Capital Territory (1.2%). It is interesting to note that once these records are excluded, the Northern Territory has one of the lowest levels of non-response. A detailed comparison of the effect of dummy forms in 1986 and 1991 is included in Table 8.

**Table 8: The effect of dummy forms on the non-response rate to Aboriginal/Torres Strait Islander origin question, 1986 and 1991 Censuses**

State/Territory	1986 Census non-response			1991 Census non-response		
	Total non-response	Due to dummy forms	Excluding dummy forms	Total non-response	Due to dummy forms	Excluding dummy forms
	%	%	%	%	%	%
New South Wales	1.8	0.7	1.1	3.3	1.7	1.6
Victoria	2.1	0.8	1.3	3.3	1.5	1.8
Queensland	1.5	0.5	1.0	3.3	1.5	1.8
South Australia	1.2	0.3	0.9	2.7	1.0	1.7
Western Australia	1.4	0.6	0.8	2.5	1.2	1.3
Tasmania	1.5	0.2	1.3	3.3	0.7	2.6
Northern Territory	3.6	2.3	1.3	3.8	2.5	1.3
Australian Capital Territory	1.1	0.6	0.5	2.5	1.3	1.2
<b>Australia</b>	<b>1.7</b>	<b>0.6</b>	<b>1.1</b>	<b>3.2</b>	<b>1.5</b>	<b>1.7</b>

The table shows that the apparent increase in recorded non-response since the 1986 Census is not as great once dummy records are excluded. The increase in the proportion of dummy forms is, however, still a concern for data quality as it represents an increasing proportion of people for whom data cannot be obtained.

## **Characteristics of Non-respondents**

### **Responses to Other Census Questions**

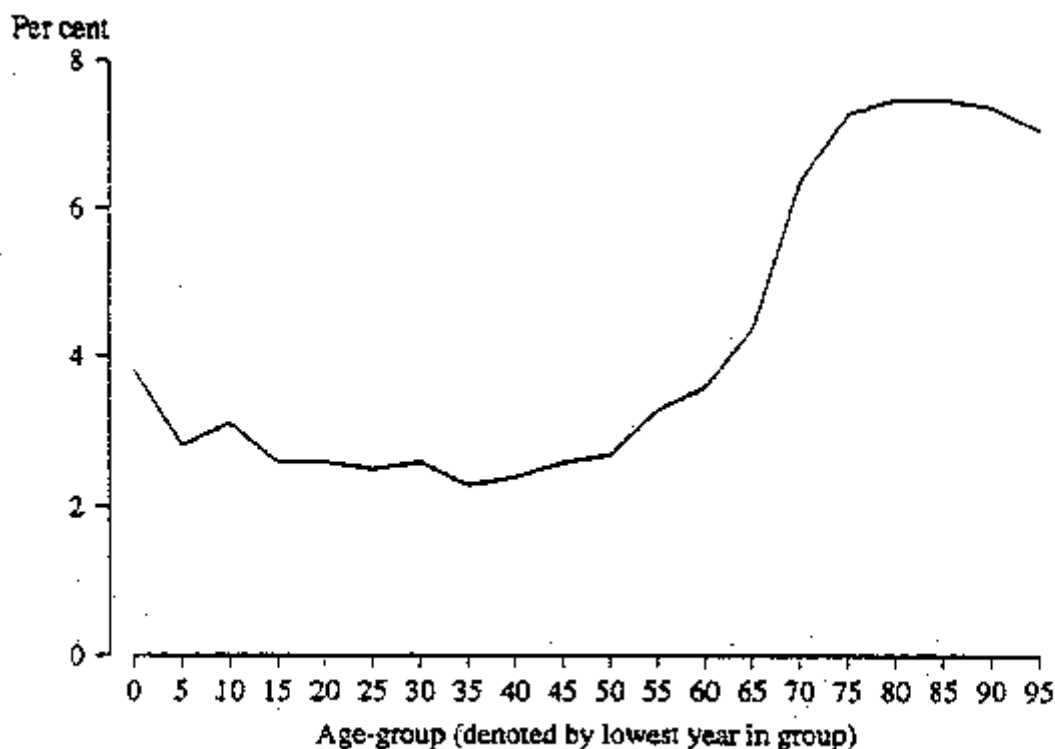
The presence of dummy records means that in about 50 per cent of cases where a not stated code occurs for Aboriginal/Torres Strait Islander origin, not stated codes also occur for most other variables. However for the remaining cases it is possible to examine the responses to other questions for people who fail to answer the Aboriginal/Torres Strait Islander origin question.

There was negligible non-response on Remote Area Interview Forms as the response was pre-marked to 'Yes, Aboriginal'.

People who are recorded as not having a qualification are slightly more likely to skip this question (with a non-response rate of 1.3%), than those with a qualification (0.9%). People who are not in the labour force are more likely to skip this question (3.3% non-response rate) than employed and unemployed people (both 1.1%). There were no significant differences on a geographical basis. People living in rural areas were just as likely to miss this question as those in urban areas.

The graph of age distribution below indicates that data quality may be a greater concern for older age groups, and may reflect a lack of perceived relevance of this question or a greater reluctance to identify as being of Aboriginal or Torres Strait Islander origin in older age groups. The level of non-response remained around or below the national level for those aged 5 to 64 years of age, and then climbed steeply. The lowest non-response rate recorded was for the 35 to 39 year age group (2.3%).

### **Figure 1: Non-response to Aboriginal/Torres Strait Islander origin question by age, 1991 Census**



Source: 1991 FURP

## Post Enumeration Survey Responses

The level of non-response to the Aboriginal/Torres Strait Islander origin question in the PES is very low, and it is possible to use PES responses to analyse the characteristics of non-respondents to the Census question on Aboriginal/Torres Strait Islander origin.

The Census non-response rate for Aboriginal/Torres Strait Islander origin for persons included in the PES sample was 3.0 per cent, indicating that these people were slightly less likely to miss this Census question than the general population (3.2%). Of the people whose birthplace was given as Australia in the PES, those identified as being of Aboriginal or Torres Strait Islander origin were more likely to miss the Census question than those who were non-indigenous (3.4% compared to 2.4%). This, however, appears to be an improvement compared to the results of the 1986 PES. The level of Census non-response to Aboriginal/Torres Strait Islander origin was much higher in the 1986 PES, and Census non-response for Aboriginal and Torres Strait Islander people (14.4%) was almost double that for non-indigenous people (7.9%).

The number of Aboriginal and Torres Strait Islander people in the PES is very small, partly because only a small proportion of the population is of Aboriginal or Torres Strait Islander origin, and partly because RAIF areas, where over one fifth of Aboriginal and Torres Strait Islander people are counted, were excluded from the PES. As a result, the sampling error on the PES estimates is high.

## ACCURACY OF STATED RESPONSES

Some respondent error is inevitable in a collection such as the Census. Respondents completed the form largely unassisted and definitions of the terms 'Aboriginal' or 'Torres Strait Islander' were not provided on the form or in the accompanying booklet. Thus, respondents were required to interpret the question themselves and may have done this in a way other than that intended.

In order to correct apparent errors, a number of checks, or edits, were performed on responses during processing. Some information, included in Section 4.1 below, is available on the types of errors detected during this process but little is known about the impact of the edits on the distribution of responses. The PES provided data on the consistency of Census and PES responses and thus on the possible extent of errors. In particular, it appears that responses of 'Yes, Torres Strait Islander' were subject to substantial error and this is explored more in Section 4.3.

## **Effect of Processing**

There are several factors which may have affected the counts of Aboriginal and Torres Strait Islander people during processing. As have been discussed earlier, edits and derivations were performed, based on information on birthplace and birthplace of parents. Below two other processes are discussed: firstly, the resolution of multiple marks read by the OMR (Optical Mark Recognition) reader, and, secondly, the manual check of responses to the Aboriginal/Torres Strait Islander question conducted on RAIF forms.

## **Resolution of Multiple Marks**

Only one response is expected for each person for the Aboriginal or Torres Strait Islander question. Multiple marks may be the result of unintentional error or people deliberately wishing to mark more than one category. This may occur for people of mixed origin or who identify with more than one of the listed groups. An instruction 'for persons of mixed origin, indicate the one to which they consider themselves to belong' is included on the Census form, but may not have been noticed or may have been seen as inconclusive by people who felt that they belonged to both groups.

The rate of multiple marks was very low in the 1991 Census, at only 0.06 per cent. This indicates that there does not appear to be a problem with people misunderstanding the question. A random sample of forms was checked manually for multiple marks to discover whether they were instances where the respondent had crossed out one response and marked another, or, if not, which categories were marked. As the incidence of multiple marks was very low only a small number of examples were detected. Of these, half were attempts at correcting mistakes, while the remainder involved the 'Yes, Aboriginal' and 'Yes, Torres Strait Islander' responses. In such cases the first response, 'Yes, Aboriginal' would have been coded during main processing. In 1986, information on ancestry would have been used to determine a response although, given the low rate of multiple marks, the change in the method of resolution is likely to have had little effect on the final count.

## **Processing of Remote Area Interview Forms**

Some Aboriginal and Torres Strait Islander people were enumerated using Remote Area Interview Forms (RAIFs) which were administered by an interviewer. The Aboriginal or Torres Strait Islander origin question on these forms was the same as the standard forms but was pre-marked 'Yes, Aboriginal' to simplify the interview. This ensured that the level of response to this question in RAIF areas was extremely high.

The pre-marking might have caused problems for non-Aboriginal people if the response was not clearly amended. The processing of RAIFs provided an opportunity to manually check for errors. All forms were examined after Computer Assisted Coding and any information available on the form which gave an indication of the correct response to the Aboriginal or Torres Strait Islander origin question was used to verify or change the allocated code. There were two main problems detected, although the extent of these was not considered to be great.

- Some people coded as Aboriginal were recoded to Torres Strait Islander. In some cases the Collection District (CD) was known to have a large population of Torres Strait Islander people. Within such CDs some people remained coded as Aboriginal if the form gave some other indication that the person actually was Aboriginal, but the others were recoded to Torres Strait Islander.
- Forms where the response was 'No' were checked for information which would indicate whether the person was Aboriginal or Torres Strait Islander. If the form showed that the person was born overseas and/or their parents were born overseas then the 'No' response was not changed. An exception to this was the case of the small number of people born overseas who indicated that they were ethnically associated with the Torres Strait Islander population. The fact that they had marriage ties with Torres Strait Islander people, had been in Australia for over 20 years, and were born in Papua New Guinea (specifically in Daru in many cases), led to the Torres Strait Islander code being applied in these cases.

Thus, there are two factors which may have affected the quality of the Torres Strait Islander counts. Firstly, the forms were pre-marked and may not have always been amended when necessary. Secondly, there is some confusion about the definition of 'Torres Strait Islander'.

### Comparison with Post Enumeration Survey Responses

The Post Enumeration Survey (PES) asks selected questions such as the Aboriginal/Torres Strait Islander origin question again of a sample of people about three weeks after the Census. The number of people who were identified in either collection as being of Aboriginal or Torres Strait Islander origin was small, but the information still appears to confirm that there was some confusion concerning this question. Only people whose birthplace given in the PES was Australia are included in this analysis.

For about 0.6 per cent of persons for whom responses were given in both the Census and the PES, the responses differed. While this appears low, the level of difference for people who were identified as being of Aboriginal or Torres Strait Islander in either the Census or the PES was very high, as can be seen in Table 9 below.

**Table 9: Responses to the Aboriginal/Torres Strait Islander origin question in the Census and PES: People for whom a response was provided in both and whose birthplace in the PES was Australia**

PES response	Census response		Torres Strait Islander	Total
	Non-indigenous No.	Aboriginal No.		
Non-indigenous	63,888	134	58	64,080
Aboriginal	157	809	15	981
Torres Strait Islander	17	4	76	97
Total	64,062	947	149	65,158



The level of inconsistency for people identified as being of Aboriginal or Torres Strait Islander origin in the Census is of concern. In particular, only half of those people identified as Torres Strait Islander in the Census were also identified as Torres Strait Islander in the PES, indicating confusion about identification.

The net effect in the PES sample was that, based on PES responses, the count of Torres Strait Islander people was lower than in the Census while the count of non-indigenous people and Aboriginal people was slightly higher. Overall, the count of Aboriginal and Torres Strait Islander people was 1.6 per cent lower in the PES than the Census. This contrasts with results from the 1986 PES, where the number of people identified as being of Aboriginal or Torres Strait Islander was 10.6 per cent higher in the PES than the Census. This could indicate that, in 1986, people of Aboriginal or Torres Strait Islander origin were less likely to identify themselves as such in the Census, although another possibility is that 1986 PES procedures wrongly identified some non-indigenous household members as Aboriginal or Torres Strait Islander people.

### Responses of Torres Strait Islander Origin

The quality of Torres Strait Islander counts is of concern in the light of the examination of RAIF forms and the results of the PES. In addition, during the processing of Census forms in 1991, it was noted that, compared to 1986, there was a high level of people identified as Torres Strait Islanders giving a birthplace overseas and this was investigated in more detail. Comparison of preliminary and final data for responses of 'Yes, Torres Strait Islander' from the 1991 Census gives some indication of the impact of the resulting edits on Torres Strait Islander counts. As shown in Table 10, the count of Torres Strait Islander people changed substantially as a result of main processing.

**Table 10: Torres Strait Islander counts: Proportion of records excluded/included during processing, 1991 Census**

State	First count	Final count	Percentage
	No.	No.	Change %
New South Wales	9,101	4,886	-46.3
Victoria	4,812	2,996	-37.7
Queensland	13,960	14,649	+4.9
South Australia	2,058	1,593	-22.6
Western Australia	1,089	777	-28.6
Tasmania	1,262	1,265	+0.2
Northern Territory	614	623	+1.5
Australian Capital Territory	151	95	-37.1

Overall, there was a decrease in the count of Torres Strait Islander people of over 18 per cent between the first and final counts, indicating a considerable impact of the edits based on birthplace and birthplace of parents. In some states, in particular in Queensland, a slight increase was observed. This could be due to a lesser effect of edits, the effect of resolution of multiple marks or, after the examination of RAIF forms, the alteration of premarked responses of 'Yes, Aboriginal' to 'Yes, Torres Strait Islander'.

An analysis of preliminary data for Torres Strait Islander people revealed two main groups that would have been affected by the edits:

- **People from Pacific Islands**

Of people identified as being of Torres Strait Islander origin, 8.5 per cent stated they were born in a country other than those listed on the Census form. An analysis of preliminary data for South Australia and some of New South Wales revealed that common responses were Pacific Islands such as Cook Islands, Papua New Guinea, Western Samoa, Tonga and Fiji. Also, New Zealand was the most common self-coded birthplace response after Australia in preliminary data, and some of these people could be of Polynesian ancestry.

The tendency of Pacific Islander people to mark 'Yes, Torres Strait Islander' may reflect some confusion regarding the definition of a Torres Strait Islander person. People born on Pacific Islands or in New Guinea may ethnically be of Torres Strait Islander origin, they may have wished to identify themselves as Torres Strait Islander people, they may have interpreted the term Torres Strait Islander as referring to Pacific Islands or to a specific Pacific Island or the word 'island' may have prompted them to identify with that response category. It is interesting to note that in the 1947 Australian Census, Torres Strait Islander people were actually classified as Polynesian while in the 1954 and 1961 Censuses, Torres Strait Islander people were classified as Pacific Islander people. This may indicate that the confusion is the result of more than language or form design factors, perhaps reflecting a more widely held perception.

- **People born in Greece or Italy**

In records representing Torres Strait Islander people in preliminary data, the self-coded birthplace responses of Greece and Italy were the most common after Australia, 'Other' and New Zealand. People from a non-English speaking background may mistake the Torres Strait Islander category in the question with their birthplace, especially if they were born on one of the many Greek and Italian Mediterranean islands. This particular problem has been noticed in testing for previous Censuses (for example, the pilot test of November 1979).

Errors of this sort would have been corrected during main processing if either the person's birthplace was given as, or the birthplaces for both parents were given as, overseas. However, if this was not the case, respondent confusion may not have been detected and could have contributed to the inconsistencies noted earlier.

Other instances where errors may have been made but could not be corrected have also been identified. In the 1986 Census the high count of Torres Strait Islander people in Tasmania is thought likely to have resulted from mis-identification by Aboriginal people and others who formerly inhabited the Bass Strait Islands and their descendants. The number of Torres Strait Islander people in Tasmania has again increased extraordinarily between the

1986 and 1991 Censuses (43%), and this could be due to a greater occurrence of the same mis-identification.

Errors could also have been made by people of South Sea Islander origin, whether due to genuine confusion between Torres Strait Islands and South Sea Islands or to a belief that Aboriginal/Torres Strait Islander identification might benefit their community by way of funds or services. It is likely that such respondents would mainly have been enumerated in Queensland.

While the editing system required that people identified as being of Torres Strait Islander origin must be born in Australia and have at least one parent born in Australia, this may not always be the case in reality. For example, people of Torres Strait Islander origin who were born in Daru (a Torres Strait Island belonging to Papua New Guinea) were identified in Queensland in 1991.

Overall, it appears that, while responses of 'Yes, Aboriginal' are subject to few sources of error, responses of 'Yes, Torres Strait Islander' are more seriously affected by identification problems.

## DEMOGRAPHIC ANALYSIS

Natural increase would be expected to be the main factor in the growth of the Aboriginal and Torres Strait Islander population between 1986 and 1991 as overseas migration is negligible. The examination of the 1986 and 1991 Census counts by age and sex will help reveal to what extent the increase observed may be due to factors such as an increase in the fertility of the indigenous population, an increase in the propensity to identify as Aboriginal or Torres Strait Islander or changes in the rate of undercount. Table 11 below contains the counts by age of Aboriginal and Torres Strait Islander people in the 1986 and 1991 Censuses, as well as the percentage change in the counts between Censuses.

**Table 11: Counts of Aboriginal and Torres Strait Islander people, 1986 and 1991 Censuses**

Age group	1986 Census		1991 Census		Intercensal Census	
	Males No.	Females No.	Males No.	Females No.	Males %	Females %
0-4	16,193	15,655	20,275	19,240	25.21	22.90
5-9	14,526	13,860	17,911	17,240	23.30	24.39
10-14	15,516	14,760	15,934	15,154	2.69	2.67
15-19	14,476	14,632	14,680	14,248	1.41	-2.62
20-24	11,846	12,197	13,209	14,178	11.51	16.24
25-29	9,406	10,074	11,081	12,008	17.81	19.20
30-34	7,411	7,942	9,445	10,227	27.45	28.77
35-39	5,911	6,496	7,512	8,258	27.09	27.12
40-44	4,552	4,845	6,020	6,503	32.25	34.22
45-49	3,501	3,906	4,442	4,527	26.88	15.90
50-54	2,812	3,072	3,377	3,614	20.09	17.64
55-59	2,167	2,361	2,601	2,764	20.03	17.07
60-64	1,578	1,900	1,893	2,293	19.96	20.68
65+	2,758	3,289	3,063	3,762	11.06	14.38
<b>Total</b>	<b>112,653</b>	<b>114,989</b>	<b>131,443</b>	<b>134,016</b>	<b>16.68</b>	<b>16.55</b>

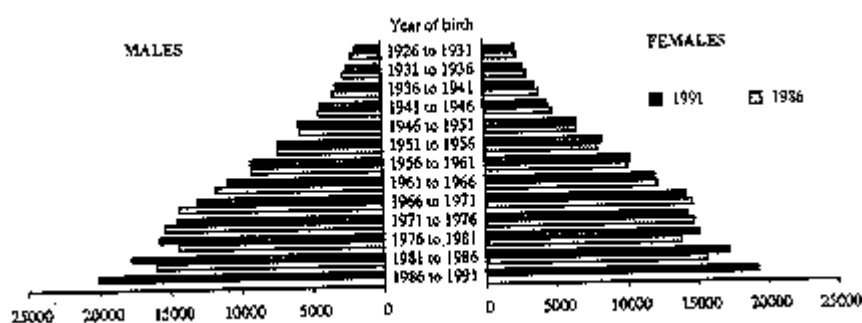
The increase has been of a similar magnitude for both males and females, however there is

a great deal of variation in the magnitude of change between age groups. While there was a substantial increase in most age groups, there was almost no change in the counts of Aboriginal and Torres Strait Islander people aged 10 to 19 years, with a slight decrease for females aged 15 to 19 years. Thus, younger age groups may have been affected by an increase in undercount and this will be examined in more detail later in this section. The highest increases were for the age groups 30 to 44 years and may have been due to an improvement in the enumeration of these groups.

## Cohort Analysis

A more accurate assessment of changes in enumeration of different age groups can be made using a cohort analysis which compares the count of a group of persons (a cohort) between Censuses. For example, a cohort analysis could involve comparing the count of people aged 15-19 years in 1986 with the count of people aged 20-24 years in 1991. The count should be similar, especially since young age groups should not be greatly affected by mortality and the Aboriginal and Torres Strait Islander population is largely unaffected by migration. Any differences are therefore likely to be due to changes in enumeration or identification as being of Aboriginal or Torres Strait Islander origin.

**Figure 2: Age-Sex structure of Aboriginal and Torres Strait Islander counts, Australia, 1986 and 1991 Censuses**



The structure of the population is reasonably similar in the 1986 and 1991 Censuses. The figure is triangular with the narrow top indicating high mortality among the Aboriginal and Torres Strait Islander population, and the wide base indicating high fertility. The number of Aboriginal and Torres Strait Islander people born in 1961 or earlier (thus aged 30 and over in 1991) has remained reasonably constant between the 1986 and 1991 Censuses, however the numbers of those born more recently have changed considerably.

Between the 1986 and 1991 Censuses, there has been a decrease in the count of Aboriginal and Torres Strait Islander people born between 1961 and 1976. This could indicate high undercount among these cohorts in the 1991 Census.

There has been an increase in the count of Aboriginal and Torres Strait Islander people born between 1976 and 1986 and so aged between 5 and 14 in the 1991 Census. This could be a result of people being more willing to identify their children as being of Aboriginal or Torres Strait Islander origin or due to a high undercount of this group in the 1986 Census.

There were 39,515 children born between 1986 and 1991 who were identified as being of Aboriginal or Torres Strait Islander origin in the 1991 Census. This is an increase of 24 per cent on the count of Aboriginal and Torres Strait Islander children aged 0-4 in the 1986 Census. There are several possible causes of this increase. It could partly reflect an increase in the number of women of child bearing age. However the child-woman ratio (see Explanatory Notes) has increased from 53.0 in 1986 to 56.5 in 1991, indicating that the

increase in children is not just due to an increase in the number of women. The usefulness of the child-woman ratio is affected by the fact that not all Aboriginal/Torres Strait Islander children are born to indigenous mothers. There was an increase of 28 per cent (slightly greater than the overall increase) in the number of children age 0-4, identified as Aboriginal or Torres Strait Islander with both parents present and only the father identified as Aboriginal or Torres Strait Islander. A large increase in fertility would be required to account for the observed increase in the child-woman ratio so it seems likely that other factors, such as an increase in the number of Aboriginal/Torres Strait Islander children born to non-indigenous mothers, changes in identification and changes in the undercount rate, have influenced this result.

The stability of the count in cohorts of people born in 1961 or earlier indicates that the quality of the 1991 Census count of those aged 30 or over is good, although the quality of data for Aboriginal and Torres Strait Islander people in younger age groups appears to be less certain. Some age groups appear to have been subject to a greater undercount than previously, while the count in other age groups has increased unexpectedly. The next section will examine the Aboriginal and Torres Strait Islander populations separately.

## Analysis of Sex Ratios

### Aboriginal Population

**Table 12: Counts and Sex Ratios of Aboriginal people, 1986 and 1991 Censuses**

Age group	1986 Census			1991 Census			Change in Cohort		
	Males No.	Females No.	Sex Ratio	Males No.	Females No.	Sex Ratio	Males No.	Females No.	Sex Ratio
0-4	14,816	14,322	103.4	18,360	17,459	105.2			
5-9	13,270	12,567	105.6	16,149	15,552	103.8	1,333	1,230	0.4
10-14	14,147	13,382	105.7	14,360	13,610	105.5	1,090	1,043	-0.1
15-19	13,161	13,388	98.3	13,249	12,855	103.1	-898	-527	-2.7
20-24	10,804	11,112	97.2	11,968	12,987	92.2	-1,193	-401	-6.2
25-29	8,537	9,166	93.1	10,031	10,916	91.9	-773	-196	-5.3
30-34	6,671	7,164	93.1	8,482	9,180	92.4	-55	14	-0.7
35-39	5,256	5,817	90.4	6,705	7,332	91.4	34	168	-1.7
40-44	4,076	4,356	93.6	5,287	5,725	92.3	31	-92	2.0
45-49	3,110	3,482	89.3	3,925	4,038	97.2	-151	-318	3.6
50-54	2,521	2,714	92.9	2,998	3,222	93.0	-112	-260	3.7
55-59	1,896	2,046	92.7	2,294	2,406	95.3	-227	-308	2.5
60-64	1,374	1,674	82.1	1,662	1,975	84.2	-234	-71	-8.5
65+	2,403	2,866	83.8	2,611	3,237	80.7	-1,166	-1,303	-2.5 *
<b>Total</b>	<b>102,042</b>	<b>104,056</b>	<b>98.1</b>	<b>118,081</b>	<b>120,494</b>	<b>98.0</b>			

\* This is the difference between persons aged 60+ in 1986 and 65+ in 1991.

As people of Aboriginal origin comprised about 90 per cent of the indigenous people counted in the 1991 Census, the trends apparent for Aboriginal people are generally very similar to those noted previously for all Aboriginal and Torres Strait Islander people. The decreases in the sex ratios (see Explanatory notes) for the cohort groups aged 15 to 29 years indicate that males are affected more than females by the apparent undercount of these groups.

### Torres Strait Islander Population

**Table 13: Counts and Sex Ratios of Torres Strait Islander people, 1986 and 1991 Censuses**

Age group	1986 Census			1991 Census			Change in Cohort		
	Males No.	Females No.	Sex Ratio	Males No.	Females No.	Sex Ratio	Males No.	Females No.	Sex Ratio
0-4	1,377	1,333	103.3	1,915	1,781	107.5			
5-9	1,256	1,293	97.1	1,762	1,688	104.4	385	355	1.1
10-14	1,369	1,378	99.3	1,574	1,544	101.9	318	251	4.8
15-19	1,315	1,244	105.7	1,431	1,393	102.7	62	15	3.4
20-24	1,042	1,085	96.0	1,241	1,191	104.2	-74	-53	-1.5
25-29	869	908	95.7	1,050	1,092	96.2	8	7	0.1
30-34	740	778	95.1	963	1,047	92.0	94	139	-3.7
35-39	655	679	96.5	807	926	87.1	67	148	-8.0
40-44	476	489	97.3	733	778	94.2	78	99	-2.2
45-49	391	424	92.2	517	489	105.7	41	0	8.4
50-54	291	358	81.3	379	392	96.7	-12	-32	4.5
55-59	271	315	86.0	307	358	85.8	16	0	4.5
60-64	204	226	90.3	231	318	72.6	-40	3	-13.4
65+	355	423	83.9	452	525	86.1	-107	-124	0.0*
<b>Total</b>	<b>10,611</b>	<b>10,933</b>	<b>97.1</b>	<b>13,362</b>	<b>13,522</b>	<b>98.8</b>			

\* This is the difference between persons aged 60+ in 1986 and 65+ in 1991.

The counts and sex ratios for Torres Strait Islander people are much less stable than those for Aboriginal people. While the overall sex ratio for the Aboriginal population changed by 0.1 between 1986 and 1991, the sex ratio for the Torres Strait Islander population changed by 1.7. Sex ratios are generally expected to decline in older age groups as females tend to have lower mortality than males but this is not the case for Torres Strait Islander people; there is no constant trend and one of the highest sex ratios in the 1991 data is for the age group 45-49 years.

The counts for younger cohorts generally increase between 1986 and 1991, although there are some exceptions. The count for the cohort aged 20-24 in 1991 had decreased and the sex ratio for this cohort also declined, indicating a possible undercount of Torres Strait Islander males aged 20-24 in 1991. The general instability of the counts, however, makes assessment of undercount in the two Censuses difficult.

5.3 Comparison by State

Examining demographic trends by State can reveal more about the comparative stability. Tables 14 and 15 show demographic trends for Aboriginal people and Torres Strait Islander people by State.

**Table 14: Sex Ratios of Aboriginal and Torres Strait Islander people by State/Territory, 1986 and 1991 Censuses**

State	Aboriginal people			Torres Strait Islander people		
	1986 Census	1991 Census	Difference	1986 Census	1991 Census	Difference
New South Wales	98.5	97.9	-0.6	96.1	99.3	3.3
Victoria	95.7	97.1	1.4	101.0	96.3	-4.6

Queensland	100.0	98.4	-1.5	95.0	98.0	3.0
South Australia	95.0	95.5	0.5	92.8	93.3	0.5
Western Australia	99.1	99.5	0.4	137.4	118.3	-19.1
Tasmania	102.9	102.0	-1.0	96.5	102.4	5.9
Northern Territory	94.7	96.3	1.6	110.9	113.4	2.4
Australian Capital Territory	99.5	101.2	1.7	96.7	90.0	-6.7
<b>Australia</b>	<b>98.1</b>	<b>98.0</b>	<b>-0.1</b>	<b>97.1</b>	<b>98.8</b>	<b>1.7</b>

**Table 15: Age distribution of Aboriginal and Torres Strait Islander people by State/Territory, 1991 Census**

State	Aboriginal people Age Group (years)				Torres Strait Islander people Age Group (years)			
	0-14 %	15-44 %	45+ %	Total %	0-14 %	15-44 %	45+ %	Total %
New South Wales	40.2	48.0	11.8	100.0	34.0	48.3	17.7	100.0
Victoria	39.3	49.0	11.8	100.0	34.7	50.1	15.2	100.0
Queensland	39.7	48.5	11.8	100.0	41.2	45.1	13.7	100.0
South Australia	39.6	48.6	11.8	100.0	34.4	46.1	19.5	100.0
Western Australia	40.8	46.9	12.3	100.0	32.3	52.0	15.7	100.0
Tasmania	42.0	47.2	10.7	100.0	38.2	50.6	11.2	100.0
Northern Territory	39.4	48.3	12.3	100.0	33.7	55.5	10.8	100.0
Australian Capital Territory	38.9	53.5	7.6	100.0	41.1	56.8	2.1	100.0
<b>Australia</b>	<b>40.0</b>	<b>48.1</b>	<b>11.9</b>	<b>100.0</b>	<b>38.2</b>	<b>47.1</b>	<b>14.8</b>	<b>100.0</b>

There is greater variation in the sex ratios between States for Torres Strait Islander people than Aboriginal people: in the 1991 Census, sex ratios for Aboriginal people varied from 95.5 to 102.0, while for Torres Strait Islander people the variation was from 90.0 to 118.3. The changes between 1986 and 1991 are also much greater for Torres Strait Islander people for every State except South Australia.

A similar trend can be observed for age. There is much greater variation in the age distribution for the Torres Strait Islander population, even among the more populous States where the population is concentrated. The proportion of Torres Strait Islander people aged under 15 years is much greater in Queensland than in New South Wales or Victoria.

## Summary

The demographic analysis reveals that the quality of the 1991 Census count of Aboriginal people aged 30 years and older appears to be good, however there may be some data quality problems for the remainder of the Aboriginal population and the Torres Strait Islander population.

The decrease in count of the cohort aged 15-29 between 1986 and 1991 indicates that this group, in particular males, may have been undercounted in the 1991 Census. The increase in the count of younger children may indicate that the enumeration of this age group improved between the 1986 and 1991 Censuses, although other factors could also be involved. The count of Torres Strait Islander people increased by 25 per cent between 1986 and 1991. The magnitude of the increase varied between age and sex cohorts. There was also great variation between States in the sex ratio and age distribution. This would indicate that there is a lack of stability in the Torres Strait Islander count and this may reflect problems in the count. For example, there may still be confusion in the community over the definition of Torres Strait Islander.

## GEOGRAPHIC DISTRIBUTION

### States and Territories

The distribution of the Aboriginal and Torres Strait Islander population between States is very different from that of the population as a whole. While most Australians live in New South Wales and Victoria, the Aboriginal population is largest in New South Wales and Queensland and the Torres Strait Islander population is concentrated in Queensland. An analysis of the counts and inter-censal changes of the Aboriginal and Torres Strait Islander population can be found in Section 1.

The distribution of counts of Aboriginal people between the States and Territories over the past three Censuses is shown in Table 16 below.

**Table 16: Distribution of Aboriginal counts, 1981 to 1991 Censuses**

State/Territory	1981 Census		1986 Census		1991 Census	
	No.	%	No.	%	No.	%
New South Wales	33,414	23.1	55,672	27.0	65,133	27.3
Victoria	5,283	3.6	10,740	5.2	13,739	5.8
Queensland	33,966	23.5	48,098	23.3	55,475	23.3
South Australia	9,476	6.5	13,298	6.5	14,639	6.1
Western Australia	30,749	21.3	37,110	18.0	41,002	17.2
Tasmania	2,334	1.6	5,829	2.8	7,620	3.2
Northern Territory	28,680	19.9	34,197	16.6	39,287	16.5
Australian Capital Territory	763	0.5	1,160	0.6	1,680	0.7
<b>Australia</b>	<b>144,665</b>	<b>100.0</b>	<b>206,104</b>	<b>100.0</b>	<b>238,380</b>	<b>100.0</b>

In the 1991 Census almost 85 per cent of the Aboriginal people counted were in New South Wales, Queensland, Western Australia and the Northern Territory. The distribution between the States and Territories has not changed much since 1986 (no State's share changed by more than 1%). New South Wales, Victoria, Tasmania and the Australian Capital Territory



showed small increases, Queensland's share remained stable, and the other States and Territories showed small decreases. However, when looking at changes over a 10 year period, quite noticeable shifts become apparent. New South Wales and Victoria together have gained more than 6 per cent of the total share, whereas Western Australia and the Northern Territory together have declined by more than 7 per cent. This is despite the fact that over the same 10 year period all States and Territories experienced increases in the count of Aboriginal people.

The distribution of the Torres Strait Islander population was very different from that of the Aboriginal population, with more than half of all Torres Strait Islander people counted in the last three Censuses located in Queensland. Also, intercensal changes in the distribution of Torres Strait Islander people over the past three Censuses (shown in Table 17) were much more distinct than those for the Aboriginal population.

**Table 17: Distribution of Torres Strait Islander counts, 1981 to 1991 Censuses**

State/Territory	No.	1981	No.	1986	No.	1991
		Census %		Census %		Census %
New South Wales	1,953	12.8	3,339	15.5	4,886	18.2
Victoria	774	5.1	1,871	8.7	2,996	11.1
Queensland	10,732	70.4	13,170	61.1	14,649	54.5
South Australia	349	2.3	993	4.6	1,593	5.9
Western Australia	602	4.0	679	3.2	777	2.9
Tasmania	354	2.3	887	4.1	1,265	4.7
Northern Territory	408	2.7	542	2.5	623	2.3
Australian Capital Territory	60	0.4	60	0.3	95	0.4
<b>Australia</b>	<b>15,232</b>	<b>100.0</b>	<b>21,541</b>	<b>100.0</b>	<b>26,884</b>	<b>100.0</b>

According to the 1991 Census, about 55 per cent of Torres Strait Islander people lived in Queensland, and a further 30 per cent in New South Wales and Victoria. Similar to the situation for the Aboriginal population, New South Wales and Victoria showed the largest gains in the share of the total Torres Strait Islander population since 1986 (2.7% and 2.4% respectively). The most striking result for Torres Strait Islander people is apparent for Queensland where, despite an increase in the count of Torres Strait Islander people it's share has declined by 6.6 per cent since 1986. These shifts in the distribution emerge even more clearly when looking at changes over a 10 year period (1981 to 1991 Censuses).

The general instability of Torres Strait Islander data may be of concern. It appears doubtful, for example, that the gains for Victoria, South Australia and Tasmania accurately reflect real changes. Some degree of racial misidentification, as reported in ABS, 1989, may be continuing. It was thought that the high count of Torres Strait Islanders for Tasmania may result from a misidentification by significant numbers of Aboriginal people as well as people who formerly inhabited the Bass Strait Islands and their descendants. This may also have affected Victoria and South Australia to some extent. Such cases of misidentification cannot be identified in processing (see Section 4 for details on editing procedures).

Overall, the data suggest that an increasing proportion of Australia's indigenous people is being counted in New South Wales and Victoria. The magnitude of these changes,

especially for the Torres Strait Islander population, appears to be greater than can be attributed to natural increase. Other factors that may be involved are improvements in enumeration, some degree of misidentification, a greater propensity for self-identification, or the effects of internal migration. This latter factor will be examined next.

### Effect of Internal Migration

Net gains or losses in the Aboriginal population between 1986 and 1991 were small for all States and Territories. The small losses for New South Wales and the Northern Territory were balanced by small gains for the other States and Territories. Table 18 shows the migration flows of Aboriginal people for the period 1986 to 1991 according to their responses to the question on 'Usual residence five years ago' in the 1991 Census.

**Table 18: State/Territory migration flows of Aboriginal people five years of age and over, 1986 to 1991 Censuses**

State/Territory	In-migration Number	Out-migration Number	Net gain/loss	
			Number	Per cent of 1991 count
New South Wales	2,056	2,829	-773	1.4
Victoria	1,295	1,195	100	0.9
Queensland	2,705	2,255	450	1.0
South Australia	1,101	878	223	1.8
Western Australia	1,169	1,049	120	0.3
Tasmania	366	353	13	0.2
Northern Territory	1,416	1,501	-85	0.3
Australian Capital Territory	565	336	229	15.9

Similar results, as shown in Table 19 overleaf, are apparent for the Torres Strait Islander population. All States and Territories showed very small net gains or losses. Since 1986, New South Wales, Western Australia and Tasmania experienced marginal net losses, and all other States and Territories very small net gains.

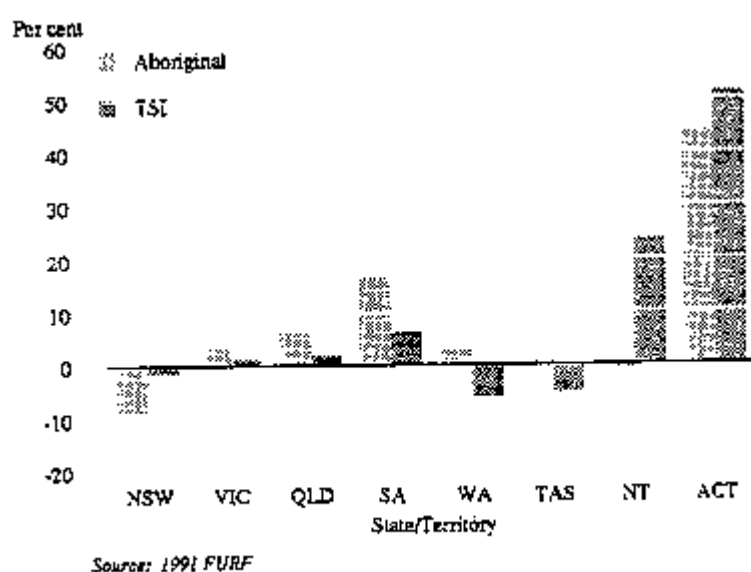
**Table 19: State/Territory migration flows of Torres Strait Islander people five years of age and over, 1986 to 1991 Censuses**

State/Territory	In-migration Number	Out-migration Number	Net gain/loss	
			Number	Per cent of 1991 count

New South Wales	260	277	-17	0.4
Victoria	129	115	14	0.5
Queensland	396	368	28	0.2
South Australia	92	54	38	2.7
Western Australia	77	83	-6	0.9
Tasmania	32	52	-20	1.8
Northern Territory	98	79	19	3.5
Australian Capital Territory	37	19	18	23.7

The contribution of internal migration to intercensal changes in the count of Aboriginal and Torres Strait Islander people was small for most States and Territories. Figure 3 below shows that the Australian Capital Territory was the only State or Territory where internal migration was a major factor for the intercensal increase in both Aboriginal and Torres Strait Islander counts. Internal migration made a lesser but significant contribution to the increase in counts of Aboriginal people in South Australia, and to the increase in counts of Torres Strait Islander people in the Northern Territory.

**Figure 3: Contribution of internal migration to intercensal changes, 1986 to 1991 Censuses**



Although an increasing proportion of Australia's indigenous people is being counted in New South Wales and Victoria (see Tables 15 and 16), internal migration data provide no indication of a strong influx of Aboriginal and Torres Strait Islander people into these States

(New South Wales even experienced a small net loss in both Aboriginal and Torres Strait Islander people). It appears that unquantifiable factors such as the increasing willingness of indigenous people to associate with their origin or improvements in enumeration may have been more important in the two most populous States than in the other States, as there are no indications that birthrates differ much between States (For more information see Gray, 1990). These assumptions may be especially fitting for the Torres Strait Islander population where changes were generally even greater than for the Aboriginal population.

## Section of State

The distribution of the Aboriginal and Torres Strait Islander between urban and rural areas is very different from that of the non-indigenous population, as can be seen in Table 20 below which contains Census counts for urban and rural areas. The Section of State classification used is derived from the geographical areas of 'Urban Centres' and 'Localities'. An Urban Centre is a population cluster of 1,000 people or more, with Urban Centres of 100,000 people or more being classified as 'Major Urban', the remainder as 'Other Urban'. Localities, which are classified as Rural, are population clusters of between 200 and 999 people.

**Table 20: Population counts by Section of State, 1991 Census, Australia**

Section of State	Non-indigenous		Aboriginal/Torres Strait Islander		
	No.	%	No.	%	% of Total
Major Urban	10,492,424	63.3	70,875	26.7	0.7
Other Urban	3,667,903	22.1	108,592	40.9	3.0
Rural Localities	451,421	2.7	36,289	13.7	8.0
Rural Balance*	1,973,123	11.9	49,703	18.7	2.5
Total	16,584,871	100.0	265,459	100.0	1.6

\* Rural Balance includes Remainder of State and Migratory

While the non-indigenous population is clustered in Major Urban areas, only around a quarter of the Aboriginal and Torres Strait Islander population live in Major Urban areas, with over half the remainder in Other Urban areas.

Comparison with 1986 data is not directly possible since the Urban Centres and Localities are redefined between the Censuses and may move to a different Section of State as a result of population changes. The most significant change between 1986 and 1991 was the change of classification of Townsville-Thuringowa from Other Urban to Major Urban as its population increased from 96,230 to 101,398. There were also many other smaller changes between Localities and Other Urban, as can be seen in Table 21 below.

**Table 21: Counts of Urban Centres/Localities by Section of State, 1986 and 1991 Census, Australia**

Section of State	Urban Centres/Localities No.	1986		Urban Centres/Localities No.	1991	
		Total Persons No.	Aboriginal/TSI persons No.		Total Persons No.	Aboriginal/TSI persons No.
Major Urban	12	9,817,933	55,537	13	10,563,299	70,875
Other Urban	619	3,499,012	95,879	693	3,776,495	108,592

Rural Localities	854	423,465	34,054	909	487,710	36,289
Rural Balance*	..	1,861,746	42,175	..	2,022,826	49,703
<b>Total</b>	<b>1,485</b>	<b>15,602,156</b>	<b>227,645</b>	<b>1,615</b>	<b>16,850,330</b>	<b>265,459</b>

\* Rural Balance includes Remainder of State and Migratory

It is still useful to look at the 1986 data however, to gain some idea of the changing distribution of Aboriginal and Torres Strait Islander people. In Table 22 overleaf, the final two columns include Townsville-Thuringowa in Other Urban rather than Major Urban. This adjustment does not make the data comparable as the Urban Centres/Localities may be redefined and there are many other changes between Other Urban and Localities which were not covered by the adjustment.

**Table 22: Aboriginal and Torres Strait Islander counts by Section of State, 1986 and 1991 Censuses, Australia**

Section of State	1986 Census		1991 Census		1991 Census, Adj.#	
	No.	%	No.	%	No.	%
ABORIGINAL PEOPLE						
Major Urban	50,227	24.4	62,234	26.1	59,564	25.0
Other Urban	85,329	41.1	98,020	41.1	100,690	42.2
Rural Localities	32,669	15.9	34,575	14.5	34,575	14.5
Rural Balance*	37,879	18.4	43,746	18.3	43,746	18.3
<b>Total</b>	<b>206,104</b>	<b>100.0</b>	<b>238,575</b>	<b>100.0</b>	<b>238,575</b>	<b>100.0</b>
TORRES STRAIT ISLANDER PEOPLE						
Major Urban	5,310	24.7	8,641	32.1	75,090	27.9
Other Urban	10,550	49.0	10,572	39.3	11,704	43.5
Rural Localities	1,385	6.4	1,714	6.4	1,714	6.4
Rural Balance*	4,296	19.9	5,957	22.2	5,957	22.2
<b>Total</b>	<b>21,541</b>	<b>100.0</b>	<b>26,884</b>	<b>100.0</b>	<b>26,884</b>	<b>100.0</b>

\* Rural Balance includes Remainder of State and Migratory

# Urban Centre of Townsville-Thuringowa moved from Major Urban to Other Urban

The effect of the change in classification of Townsville-Thuringowa is much greater for the Torres Strait Islander population than the Aboriginal population as 4.2 per cent of the Torres Strait Islander population was counted in that Urban Centre in 1991, compared to 1.1 per cent of the Aboriginal population.

In both 1986 and 1991, the contrast between the distributions of the Aboriginal and Torres Strait Islander populations was similar. In 1991, 71 percent of the Torres Strait Islander population lived in Major or Other Urban areas, compared to 67 per cent of the Aboriginal Population. This difference was slightly less than in 1986 (74% and 66% respectively). The greatest difference between the populations however is the proportion living in Rural Localities: 15 per cent of the Aboriginal population in 1991 compared to only 6 per cent of the Torres Strait Islander population. Between 1981 and 1986 there was an increase in the proportion of Aboriginal and Torres Strait Islanders living in Major and Other Urban areas increased from 58.5 per cent to 66.5 per cent. However, there was little change between

1986 and 1991 as the proportion in 1991 was 67.6 per cent. This could at least partly be the result of the problems with comparability noted earlier, although it may also indicate that the apparent trend towards greater urbanisation was not as large between 1986 and 1991.

**Table 23: Aboriginal counts by Section of State, 1986 and 1991 Censuses, Australia**

Section of State	1986 Census		1991 Census		Contribution to intercensal increase	
	No.	%	No.	%	No.	%
Major Urban	50,227	24.4	62,234	26.1	12,007	37.0
Other Urban	85,329	41.4	98,020	41.1	12,691	39.1
Rural	70,548	34.2	78,321	32.8	7,773	23.9
<b>Total</b>	<b>206,104</b>	<b>100.0</b>	<b>238,575</b>	<b>100.0</b>	<b>32,741</b>	<b>100.0</b>

Data for the Torres Strait Islander population reveal major changes between the 1986 and 1991 Censuses. The urbanisation of Torres Strait Islander people seems to be increasing even more quickly than for the Aboriginal population. Although most were still counted in 'Other Urban' areas, the proportion counted in these areas has declined since 1986. The share of 'Major Urban' areas has increased over the same period. Table 24 shows that 'Major Urban' areas accounted for almost two thirds of the total intercensal increase, whereas the count for 'Other Urban' areas remained almost static.

**Table 24: Torres Strait Islander counts by Section of State, 1986 and 1991 Censuses, Australia**

Section of State	1986 Census		1991 Census		Contribution to intercensal increase	
	No.	%	No.	%	No.	%
Major Urban	5,310	24.7	8,641	32.1	3,331	62.3
Other Urban	10,550	49.0	10,572	39.3	22	0.4
Rural	5,681	26.4	7,671	28.6	1,990	37.3
<b>Total</b>	<b>21,541</b>	<b>100.0</b>	<b>26,884</b>	<b>100.0</b>	<b>5,343</b>	<b>100.0</b>

Section of State data confirm that an increasing proportion of the indigenous population in Australia is being counted in 'Major Urban' areas. However, the magnitude of the changes apparent for the Torres Strait Islander population may point to potential problems with Torres Strait Islander counts. The generally greater instability of Torres Strait Islander data has also been noted in previous sections of this paper.

### Remote Area Interview Form Areas

In the 1991 Census nearly 60,000 people were enumerated on Remote Area Interview Forms (RAIFs). This represented an increase of more than 22,000 (about 60%) over the 1986 Census, and means about 0.4 per cent of the total Australian population were counted this way (see Table 25 for details).

**Table 25: Persons enumerated on Remote Area Interview Forms, 1986 and 1991 Censuses**

State/Territory	1986 Census	1991 Census	Intercensal increase	
	No.	No.	No.	%
Queensland	-	16,488	-	-

South Australia	2,443	3,111	668	27.3
Western Australia	10,818	11,503	685	6.3
Northern Territory	23,836	28,125	4,289	18.0
<b>Australia</b>	<b>37,097</b>	<b>59,227</b>	<b>22,130</b>	<b>59.7</b>

The intercensal increase in people counted in designated remote areas was mainly due to the introduction of RAIF procedures in Queensland in the 1991 Census. Of the four States and Territories which used these procedures in 1991, the Northern Territory accounted for about half of all persons counted on RAIFs.

As shown in Table 26, in the 1991 Census about 55,000 Aboriginal people were enumerated in RAIF areas (more than 50% of them in the Northern Territory), and almost 4,000 Torres Strait Islander people (more than 98% of them in Queensland). In 1986, very few Torres Strait Islander people were counted on RAIFs. Most of the 329 persons of neither Aboriginal nor Torres Strait Islander origin counted this way in 1991 were found in Queensland.

**Table 26: Persons enumerated on Remote Area Interview Forms by Aboriginal/Torres Strait Islander origin, 1991 Census**

State/Territory	Aboriginal people No.	Torres Strait Islander people No.	Other people No.	Total people No.
Queensland	12,261	3,890	305	16,488 (a)
South Australia	3,102	0	9	3,111
Western Australia	11,481	7	15	11,503
Northern Territory	28,084	41	0	28,125
<b>Australia</b>	<b>54,928</b>	<b>3,938</b>	<b>329</b>	<b>59,227</b>

(a) Includes 32 records where Aboriginal origin was not stated.

For the country as a whole, 23 per cent of the total Aboriginal population and almost 15 per cent of the Torres Strait Islander population were enumerated in RAIF areas. These proportions varied considerably from State to State and are shown in Table 27 below.

**Table 27: Proportion of Aboriginal and Torres Strait Islander people enumerated on Remote Area Interview Forms, 1986 and 1991 Censuses**

1986 Census		1991 Census	
Aboriginal people	Torres Strait Islander people	Aboriginal people	Torres Strait Islander people

State/Territory	%	%	%	%
Queensland	-	-	22.1	26.6
South Australia	18.3	0.1	21.2	0.0
Western Australia	29.0	1.0	28.1	0.9
Northern Territory	69.4	3.7	71.5	6.6
<b>Australia</b>	<b>17.9</b>	<b>0.1</b>	<b>23.0</b>	<b>14.6</b>

In 1991, over 70 per cent of Aboriginal people in the Northern Territory were enumerated in RAIF areas, and between 20 per cent and 30 per cent in each of the three other States. About a quarter of Torres Strait Islander people in Queensland were counted this way whereas in the other States none or only very few Torres Strait Islander people were found in RAIF areas. The quality of counts in RAIF areas is difficult to assess. Procedures varied from State to State and were adopted to suit particular situations. It is known, for example, that in the 1986 Census some States used remote area forms in 'normal' Collection Districts, and that in the 1991 Census South Australia used normal household forms in remote communities where the population was deemed literate. This flexible approach appears to have been a successful enumeration strategy, although it is difficult to assess the overall effect on data quality. According to ABS, 1993b (which contains a detailed assessment of data quality issues in remote areas) the most likely coverage problem in RAIF areas appeared to be slight overcounting.

## Summary

The most important results from the geographic analysis of the Aboriginal and Torres Strait Islander population are:

- The proportion of Australia's indigenous people counted in New South Wales and Victoria increased;
- Internal migration was found to be of little or no importance for the large changes in both Aboriginal and Torres Strait Islander counts in most States and Territories;
- The proportion of the total Aboriginal and Torres Strait Islander population counted in major urban areas increased slightly; and
- The introduction of RAIF procedures to Queensland and the expansion in the number of designated remote area Collection Districts in the other three States using RAIF procedures were largely responsible for the increase in the count of indigenous people enumerated on Remote Area Interview Forms.

Intercensal changes in the counts of Aboriginal people were not nearly as large as between the 1981 and 1986 Censuses. This may indicate that the count has stabilised somewhat and that both the 1986 and 1991 Census counts of Aboriginal people were of good quality. A greater propensity to self-identify, especially in the major urban centres of New South Wales and Victoria, combined with natural population growth and further improvements in enumeration of Aboriginal people, may have been largely responsible for the differences



that remain in intercensal growth between Aboriginal and non-indigenous people.

There may be some data quality problems in the count of Torres Strait Islander people. Intercensal changes were generally much larger than for the Aboriginal population, and there appear to be considerable differences between the States and Territories. It seems possible that, at least in some States, this is due to some degree of misidentification by people of other origin, including Bass Strait Islands, other Pacific Islands and Mediterranean Islands.

**COMPARISON WITH NON-CENSUS DATA**

Comparing the Census counts with counts from independent sources can give an indication of the quality of the Census counts. There are three sources of data which will be considered in this section. The first two relate to the number of students of Aboriginal or Torres Strait Islander origin while the third consists of projections produced by Alan Gray at the Australian National University for the whole Aboriginal and Torres Strait Islander population in 1991.

**Enrolments in Educational Institutions**

Two sources of data on the number of Aboriginal and Torres Strait Islander students have been examined. The National Schools Statistical Collection (NSSC) compiles data on the number of students in primary and secondary schools in Australia which is published by the ABS (ABS, 1992). The method of collecting data varies between States and government and non-government institutions but usually consists of collection of data directly from the educational establishments. The NSSC defines an Aboriginal/Torres Strait Islander student as 'a student of Aboriginal or Torres Strait Islander origin who identifies as an Aborigine or Torres Strait Islander'. The Department of Employment, Education and Training (DEET) collects information from higher education institutions, and published information on Aboriginal and Torres Strait Islander students in 1991 as a part of their 'Higher Education Series' (DEET, 1992).

There are a number of problems with comparability between the different sources of data. The first concerns the accuracy of identification of Aboriginal or Torres Strait Islander origin. This information is of a personal and sensitive nature and is based on self-identification. Thus, while the quality of the Census responses is thought to be good (see Section 4 for further discussion), responses may differ if different people provide the information, or in different situations. It was noted by DEET that funding is provided to tertiary institutions specifically for Aboriginal or Torres Strait Islander students and thus people who may choose not to reveal that they are of Aboriginal or Torres Strait Islander in the Census may do so in such situations.

Another problem with comparability involves the high 'not stated' rate for the Census question on 'Type of Educational Institution' in the Census, which was around 5 per cent. In order to attempt to remove the effect of missing responses, a proportion of people who did not state a response was included in the second count. Details of the calculation of the 'not-stated' rate and the distribution of missing responses are included in the Explanatory Notes. While this is only an approximation, it can give some indication of the effect of non-response. Tables 28 and 29 compare both the raw count of students from the Census and the count adjusted for non-response with the counts from the NSSC.

**Table 28: Comparison of Census and NSSC counts of Aboriginal and Torres Strait Islander people attending primary schools, Australia, August 1991**

Count of students	Difference between
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	NSSC	Census raw count	Census adj. for non-resp.	NSSC and Census (%)	
				Census raw count	Census adj. for non-resp.
New South Wales	11,750	11,087	12,494	-5.6	6.3
Victoria	1,768	2,343	2,675	32.5	51.3
Queensland	13,687	10,301	12,105	-24.7	-11.6
South Australia	3,030	2,638	3,118	-12.9	2.9
Western Australia	8,761	6,136	7,247	-30.0	-17.3
Tasmania	1,232	1,535	1,687	24.6	36.9
Northern Territory	8,602	6,196	7,580	-28.0	-11.9
Australian Capital Territory	284	298	323	4.9	13.7
<b>Australia</b>	<b>49,114</b>	<b>40,534</b>	<b>47,229</b>	<b>-17.5</b>	<b>-3.8</b>

**Table 29: Comparison of Census and NSSC counts of Aboriginal and Torres Strait Islander people attending secondary schools, Australia, August 1991**

	Count of students			Difference between NSSC and Census (%)	
	NSSC	Census raw count	Census adj. for non-resp.	Census raw count	Census adj. for non-resp.
New South Wales	6,563	5,950	6,561	-9.3	-0.0
Victoria	1,206	1,455	1,607	20.6	33.3
Queensland	6,835	5,649	6,338	-17.4	-7.3
South Australia	1,233	1,041	1,171	-15.6	-5.0
Western Australia	3,748	2,690	3,057	-28.2	-18.4
Tasmania	828	895	953	8.1	15.1
Northern Territory	2,570	1,878	2,222	-26.9	-13.5
Australian Capital Territory	152	163	176	7.2	13.7
<b>Australia</b>	<b>23,135</b>	<b>19,721</b>	<b>22,085</b>	<b>-14.8</b>	<b>-4.5</b>

Overall, the Census count is around 15 per cent lower than the NSSC count in both primary and secondary schools. The greatest difference is in Western Australia, where the Census count is about 30 per cent lower. Including a proportion of the 'not stated' responses decreases the difference, but the Census count is still substantially lower for some States. Victoria, Tasmania and the Australian Capital Territory, which all have relatively small Aboriginal and Torres Strait Islander populations, all had higher Census counts. The analysis of the geographic distribution of Aboriginal and Torres Strait Islander people (Section 6) showed large increases in the count of indigenous people in these States which may indicate data quality problems. It should also be remembered that there are some situations where students could have been counted in a State or Territory different from that where they attend an institution.

A similar comparison was performed for higher education students with both the raw Census counts and the counts adjusted for non-response. The counts are presented in Table 30 below.

**Table 30: Comparison of Census and DEET counts of Aboriginal and Torres Strait Islander people attending tertiary institutions, Australia, 1991**

	Count of students		Census adj. for non-resp.	Difference between DEET and Census (%)	
	DEET	Census raw count		Census raw count	Census adj. for non-resp.
New South Wales	1,198	948	966	-20.9	-19.4
Victoria	720	327	335	-54.6	-53.5
Queensland	918	828	850	-9.8	-7.4
South Australia	556	316	323	-43.2	-41.9
Western Australia	557	411	421	-26.2	-24.4
Tasmania	140	172	175	22.9	25.0
Northern Territory	499	212	220	-57.5	-55.9
Australian Capital Territory	122	94	96	-23.0	-21.3
<b>Australia</b>	<b>4,710</b>	<b>3,308</b>	<b>3,386</b>	<b>-29.8</b>	<b>-28.1</b>

The Census counts were much lower than the DEET counts, even when a proportion of the people who did not state a response was included. Tasmania, which had only a small number of tertiary students of Aboriginal and Torres Strait Islander origin, was the only exception.

In part, these differences may be due to the different circumstances in which the data are collected. As noted in previous sections, there appears to be some under-recording (whether by under-enumeration or mis-identification) of Aboriginal and Torres Strait Islander people aged 15 to 29 in the Census and this may be a factor in the discrepancies observed for secondary and tertiary students.

### Population Estimates and Projections

Projections and estimates of the indigenous population have been produced as a part of research performed at the Australian National University and these can be used to give an indication of the quality of the 1991 Census counts. Dr. Alan Gray produced projections of the Aboriginal and Torres Strait Islander population to 2001, based on 1986 Census data, in 1990. The total indigenous population for 1991 was projected to be 251,800 which is 5.4 per cent lower than the 1991 Census count of 265,459. For the calculation of the projections, it was assumed that fertility for the Aboriginal/Torres Strait Islander population would continue to decline gradually. However, as can be seen in Table 31, there was an extremely large discrepancy in the 0-4 age group, indicating that this may not have been the case. The magnitude of the difference, though, is greater than could be explained by fertility alone.

**Table 31: Projection of the Aboriginal and Torres Strait Islander population in 1991\* compared with the final 1991 Census counts, by age and sex**

Age	Census		Projection		Difference from projection	
	Males No.	Females No.	Males No.	Females No.	Males No.	Females No.
0-4	20,275	19,240	16,857	16,302	20.3	18.0
5-9	17,911	17,240	16,090	15,564	11.3	10.8
10-14	15,934	15,154	14,439	13,828	10.4	9.6
15-19	14,680	14,248	15,371	14,685	-4.5	-3.0
20-24	13,209	14,178	14,277	14,483	-7.5	-2.1
25-29	11,081	12,008	11,564	12,049	-4.2	-0.3
30-34	9,445	10,227	9,074	9,920	4.1	3.1
35-39	7,512	8,258	7,022	7,760	7.0	6.4
40-44	6,020	6,503	5,474	6,290	10.0	3.4
45-49	4,442	4,527	4,152	4,563	7.0	-0.8
50-54	3,377	3,614	3,121	3,568	8.2	1.3
55-59	2,601	2,764	2,364	2,755	10.0	0.3
60-64	1,893	2,293	1,674	2,019	13.1	13.6
65+	3,063	3,762	2,752	3,783	11.3	-0.6
<b>Total</b>	<b>131,443</b>	<b>134,016</b>	<b>124,231</b>	<b>127,569</b>	<b>5.8</b>	<b>5.1</b>

\* Unpublished data provided by Dr. Alan Gray

This comparison confirms that age groups 5 years and older also increased in the Census by more than expected. The Census count of Aboriginal and Torres Strait Islander people aged 15 to 29 years was much lower than the projection. This finding is similar to that from the cohort analysis in Section 5. In older age groups, Census counts of males were higher than projected for ages 30 and older, while the counts of females were similar to projections for most age groups (except 60 to 64 years).

Gaminiratne, 1993, compared observed and estimated growth rates of the Aboriginal and Torres Strait Islander population. Estimated growth rates were derived from an assessment of the coverage of the 1986 Census relative to the 1991 Census performed by Gray and Tesfaghiorghis using indirect estimates of fertility and mortality. Gaminiratne used these relative coverage estimates to adjust the 1986 population in the States and then, by comparing the adjusted 1986 population with the observed population in the 1991 Census, estimated 'the most probable growth rates consistent with the estimated intercensal natural increase and the observed population in the 1991 Census' (Gaminiratne, 1993). The estimates, together with the observed growth rates (based on the 1986 and 1991 Census counts), are presented in Table 32.

**Table 32: Growth rates of the Aboriginal and Torres Strait Islander population, observed and estimated, by State and Territory, 1986-1991 a**

State/Territory	Growth rate per year		Difference
	Observed	Estimated	
New South Wales			
and the Australian Capital Territory	3.4	2.7	0.7
Victoria b	5.5	3.4	2.1

Queensland	2.6	2.5	0.1
South Australia	2.5	2.0	0.5
Western Australia	2.0	2.5	-0.5
Tasmania b	5.5	3.3	2.2
Northern Territory	2.7	2.2	0.5
<b>Australia</b>	<b>3.0</b>	<b>2.5</b>	<b>0.5</b>

a Data from Gaminiratne, 1993.

b Gray and Tesfaghiorghis combined Tasmania with Victoria and growth rates for the two States were computed assuming combined coverage estimates are uniform for the two States.

The observed growth rate of the Aboriginal and Torres Strait Islander population in Australia is greater than the estimated growth rate for Australia and most States and Territories. In particular, the growth rates for Victoria and Tasmania were much greater than estimated. This reflects the increase in the Census counts for these States between 1986 and 1991, as noted in Section 1.

The estimated growth rate for Western Australia was higher than the observed growth rate, in contrast to the rest of Australia, indicating that there may have been an increase in undercount of Aboriginal and Torres Strait Islander people in Western Australia in 1991. This is discussed further in Section 5 and in the paper by Gaminiratne. It is noted in both these sources that the patterns observed can not be attributed to the effect of interstate migration.

Overall, the difference of 5.4 per cent between the projected indigenous population for 1991 and the 1991 Census count and the difference of 0.5 between the observed and estimated growth rates are indications of the possible contribution of factors other than natural increase (namely, improved enumeration and greater willingness to identify) to the intercensal change in Aboriginal and Torres Strait Islander count.

## CONCLUSION

There was an increase of 16.6 per cent in the count of the Aboriginal and Torres Strait Islander population between the 1986 Census and the 1991 Census. This increase was greater for Torres Strait Islander people than Aboriginal people (24.8% compared to 15.8%). It also varied considerably between States. The share of the Aboriginal and Torres Strait Islander populations counted in the biggest States, New South Wales and Victoria, increased.

This report has examined a number of factors that might have contributed to the overall increase in the indigenous population counted.

- There is no indication of any significant increase in response to the Aboriginal/Torres Strait Islander origin question in the 1991 Census. Recorded non-response rates actually show an increase between 1986 and 1991 but this is probably due mainly to imputation of responses using answers to the ancestry question included in the 1986 Census. It should be noted that imputation on the basis of ancestry response in 1986 did not often result in Aboriginal or Torres Strait Islander responses for the origin question. Another factor may be the increase in the number of dummy forms in 1991.

- Overall the rate of undercount of the Aboriginal and Torres Strait Islander population, as calculated from the PES, appeared to decrease between 1986 and 1991, although other analysis indicated that this may not be the case for all age/sex groups and states. In addition, although there was limited information available on the procedures used and the effect on the quality of the counts, the population counted on Remote Area Interview Forms could have been subject to slight overcounting.
- The fertility rate for Aboriginal and Torres Strait Islander women has traditionally been much higher than for the non-indigenous population and natural increase would have contributed to the increase in the counts between 1986 and 1991.
- The increase in the indigenous population in the Australian Capital Territory appears to be largely explained by internal migration, but this was, at most, a minor factor in the increases in other States and the Northern Territory.

The increase in the counts of the Aboriginal and Torres Strait Islander populations between 1986 and 1991 appears to be greater than could be explained by these factors, however, particularly for Torres Strait Islander people. Other unquantifiable factors may also have affected the counts, such as an increase in the propensity for Aboriginal and Torres Strait Islander people to identify themselves as such in the Census.

Other interesting points were apparent from the 1991 Census counts of the Aboriginal and Torres Strait Islander people. Geographic analysis suggests shifts in the distribution of Aboriginal and Torres Strait Islander people towards the major urban centres of New South Wales and Victoria where the largest intercensal increases were recorded. Undercount appears to be a problem for Aboriginal and Torres Strait Islander people aged 15 to 29 years, particularly for males. This trend is also apparent in the non-indigenous population.

The distribution of the count of Aboriginal people remained reasonably stable between age groups and States between 1986 and 1991, despite the overall increase in the count. Thus, the quality of the data seems to be good, although subject to some degree of undercount. The count and distribution of Torres Strait Islander people however still appears to be unstable and improvements, possibly concerning information about the definition of Torres Strait Islander origin, should be considered.

## **EXPLANATORY NOTES**

### **Scope and coverage**

The 1991 Census of Population and Housing aimed at counting every person who spent Census night, 6 August 1991, in Australia, including persons on vessels, in or between Australian ports, or on board long-distance trains, buses or aircraft. All private dwellings were counted, whether occupied or unoccupied. Occupied non-private dwellings, such as hospitals, prisons, hotels, etc., were also included.

People were counted where they were on Census night (place of enumeration), which may not have been where they usually lived (place of usual residence). Place of usual residence was asked of each person, and answers, where they differed from enumeration address, were coded to Statistical Local Area (SLA). A description of the two bases of enumeration and of the concept of estimated resident population can be found in the 1991 Census Dictionary (Cat. No. 2901.0).

Visitors to Australia were enumerated regardless of how long ago they had arrived or how long they planned to stay. Australian residents out of the country on Census night were

excluded from the count. Overseas diplomatic personnel and their families are out of the scope of the Census, as are diplomatic residences.

The main source of data for the analysis of Aboriginal and Torres Strait Islander counts was a sub-file of the 1991 Census Final Unit Record File (FURF).

## **Definitions**

### **Sex ratio**

The number of males per 100 females.

### **Child-woman ratio**

The number of children under 5 years of age per 100 females aged 15 to 49.

### **Geographic areas**

The geographic units used in this working paper are States and Territories and Section of State.

Section of State, within a State or Territory, represents an aggregation of non-contiguous geographic areas with particular urban or rural characteristics. The following Sections of State were used in this paper:

- Major urban - all urban centres with a population of 100,000 and over;
- Other urban - all urban centres with a population of 1,000 to 99,999 and known holiday resorts of less population if they contain 250 or more dwellings of which at least 100 are occupied on Census night;
- Rural - the remainder of the State or Territory.

Further details of these and other geographic areas can be found in the Australian Standard Geographic Classification (ASGC) (Cat. No. 1216.0).

## **Non-response to education questions**

### **Non-response rate**

The applicable population used in the calculation of the non-response rate consists of all people identified as students and all people for whom no response was provided to the question on whether they were full/part-time students but a response was given to the question on educational institution attended.

### **Distribution of missing responses for the comparison**

In order to compare the counts from the Census and the NSSC, some allowance has been made for missing responses in the Census. All people in the applicable population who did not respond to the question on educational institution attended were distributed among the appropriate responses, according to the distribution of stated responses in their 5 year age groups, for the purposes of the comparison.

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## **APPENDIX**

### **Census questions on Aboriginal or Torres Strait Islander origin**

#### **1971 Census**

##### **What is this person's racial origin ?**

(If of mixed origin indicate the one to which he considers himself to belong)

(Tick **one** box only or give **one** origin only)

1 European origin

2 Aboriginal origin

3 Torres Strait Islander origin

4 Other origin (give one only)

#### **1976 Census**

##### **What is this person's racial origin ?**

- If of mixed origin, indicate the one to which this person considers himself/herself to belong.

- Tick **one** box only.

European origin

Aboriginal origin

Torres Strait Islander origin

Other origin

State one only

## **1981 Census**

### **Is the person of Aboriginal or Torres Strait Islander origin ?**

- For persons of mixed origin, indicate the one to which they consider themselves to belong.

No

Yes, Aboriginal

Yes, Torres Strait Islander

## **1986 Census**

### **Is the person of Aboriginal or Torres Strait Islander origin ?**

- For persons of mixed origin, indicate the one to which they consider themselves to belong.

No

Yes, Aboriginal

Yes, Torres Strait Islander

## **1991 Census**

### **Is the person of Aboriginal or Torres Strait Islander origin ?**

- For persons of mixed origin, indicate the one to which they consider themselves to belong.

( ) No

( ) Yes, Aboriginal

( ) Yes, Torres Strait Islander

## **About this Release**

### **ABOUT THIS RELEASE**

This paper aims to provide an detailed assessment of the accuracy of 1991 Census counts of Aboriginal and Torres Strait Islander people. This was achieved by examining intercensal changes, undercount, non-response and accuracy of stated responses to the Census question on Aboriginal and Torres Strait Islander origin. In addition, geographic and demographic analyses, as well as a comparison of Census data with other sources, were undertaken.

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